

# Results and Discussion from the Swinomish Tribe's Toxics and Shellfish Project



Swinomish Tribal Community

P.O. Box 817, 11404 Moorage Way  
La Conner, WA 98257



Swinomish Water Resources Program

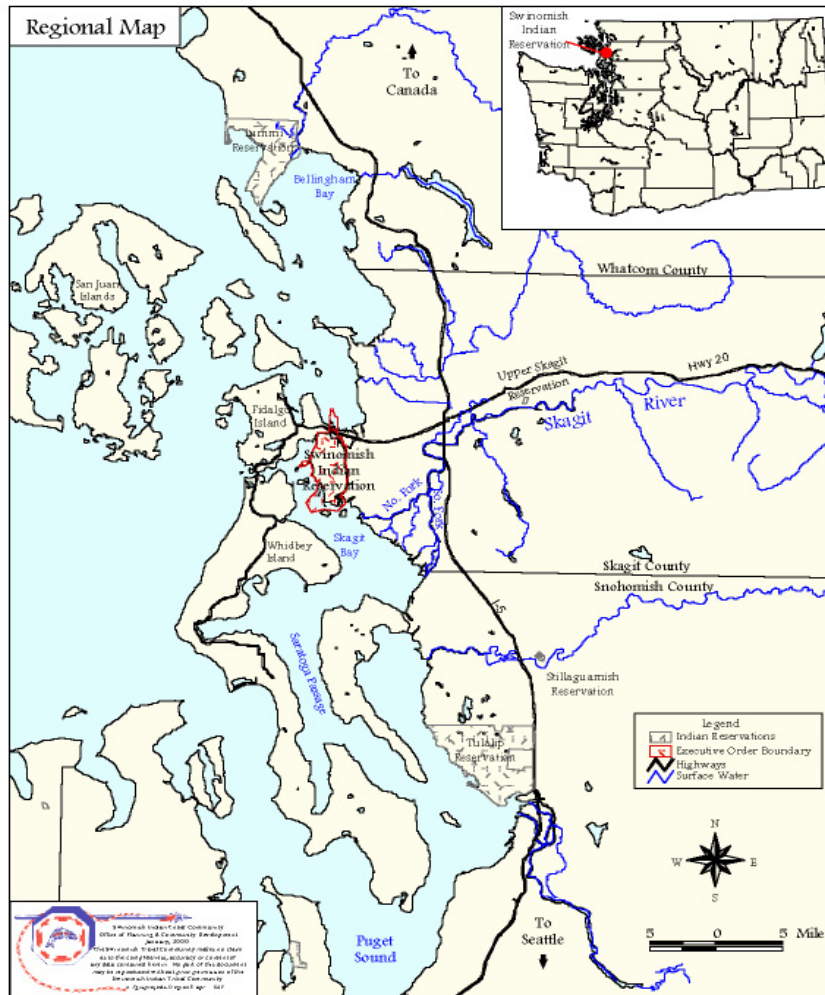
Office of Planning & Community Development

P.O. Box 817; 11430 Moorage Way - LaConner, WA 98257 - 360.466.7280 - 360.466.1615 fax

Jamie Donatuto, PhD(c), Swinomish Indian Tribal Community, WA  
Barbara Harper, DABT, PhD, AESE, Inc., WA



# Presentation Outline



- Background
  - Tribe
  - Project
- Project results
- Discussion & next steps

# Project Hypothesis

The Swinomish people are exposed to low level, chronic bioaccumulative toxics when participating in subsistence gathering and consumption of shellfish.



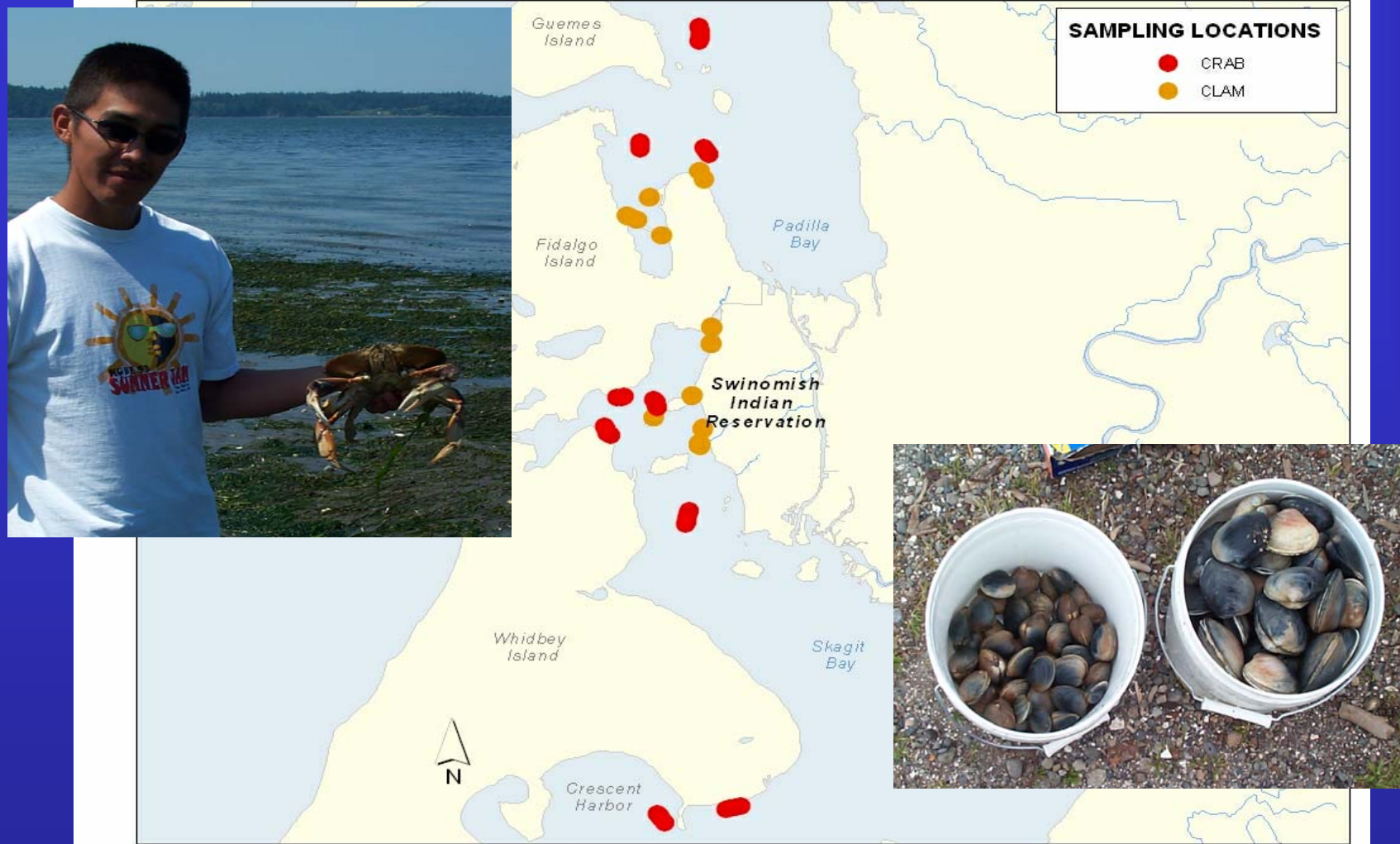


# Target Chemical Groups

- Heavy Metals: arsenic, copper, cadmium, selenium, mercury, lead, nickel
- PCB aroclors & WHO list congeners
- PAHs extended list
- Dioxins/-furans
- Chlorinated pesticides
- Butyltins (i.e., TBT)



# Sample Collection



# Why thinking about fish consumption is important

- Fish consumption is a key factor in Coast Salish tribal risk assessments that examine health effects from eating contaminated subsistence foods
  - Seafood is an integral part of the Coast Salish tribal lifestyle
  - Fish consumption is part of the “dose” in the risk equation:

$$\text{Dose} \times \text{Toxicity} = \text{Risk}$$





# Current data do not represent Coast Salish Tribes



How much seafood you eat?

- Is your answer close to the US national average of 1 serving/ month and thus adequately protect you?
- Currently available tribal data not accurate:
  - Columbia Rvr Intertribal Fish Commission survey (1994) did not include data on the highest fish consumers
  - Tulalip & Squaxin Island survey (1996) recoded data from the highest consumers to lower rates

# Proposing Solutions: 1. Determine the purpose of the fish consumption survey

Determine the question you want to answer—do you want data on the current consumption rates that are suppressed, or do you want data on the rates as promised when the Treaties were signed and what the Tribes would like to restore consumption levels to by cleaning up pollution and enforcing pollution laws?





# Proposing Solutions: 2. Determine data collection & analysis methods



Data collection and analysis must be technically AND culturally credible

- Example of collection method: oral interviews w/ open-ended questions better than written or computerized surveys
- Example of analysis method: include even the highest consumers in the analysis, it is valid to eat a lot of fish!

Allow the Tribes to perform their own surveys—*each Tribe is unique.*

# Seafood Diet Interviews:

An alternative to consumption surveys

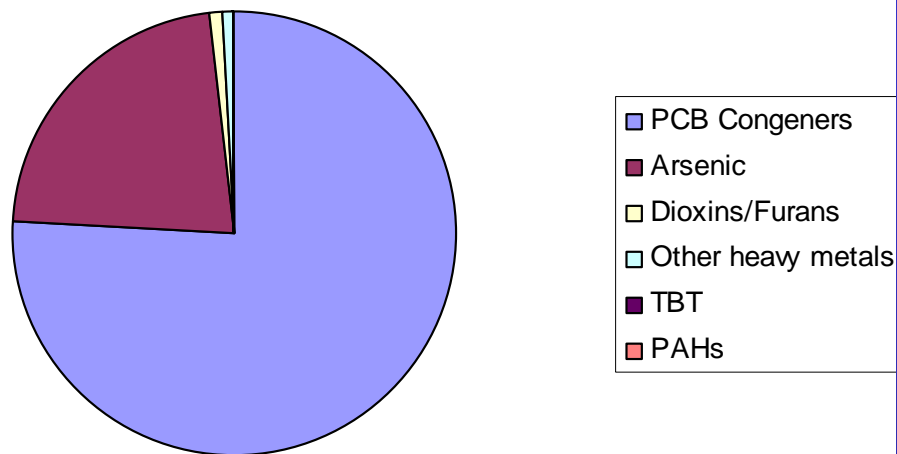


1. Determine the purpose—the question you want to answer.
2. Determine the collection and data analysis methods.
3. Remember that the answers are Tribe-specific

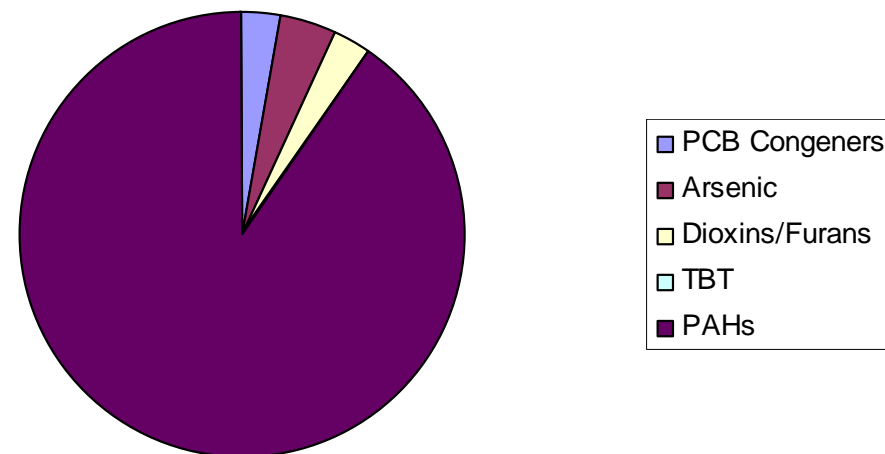
# Risk Assessment: Clams

% each toxic contributed to total amount found

Typical Non-Cancer Risk Drivers - Clams



Typical Cancer Risk Drivers - Clams

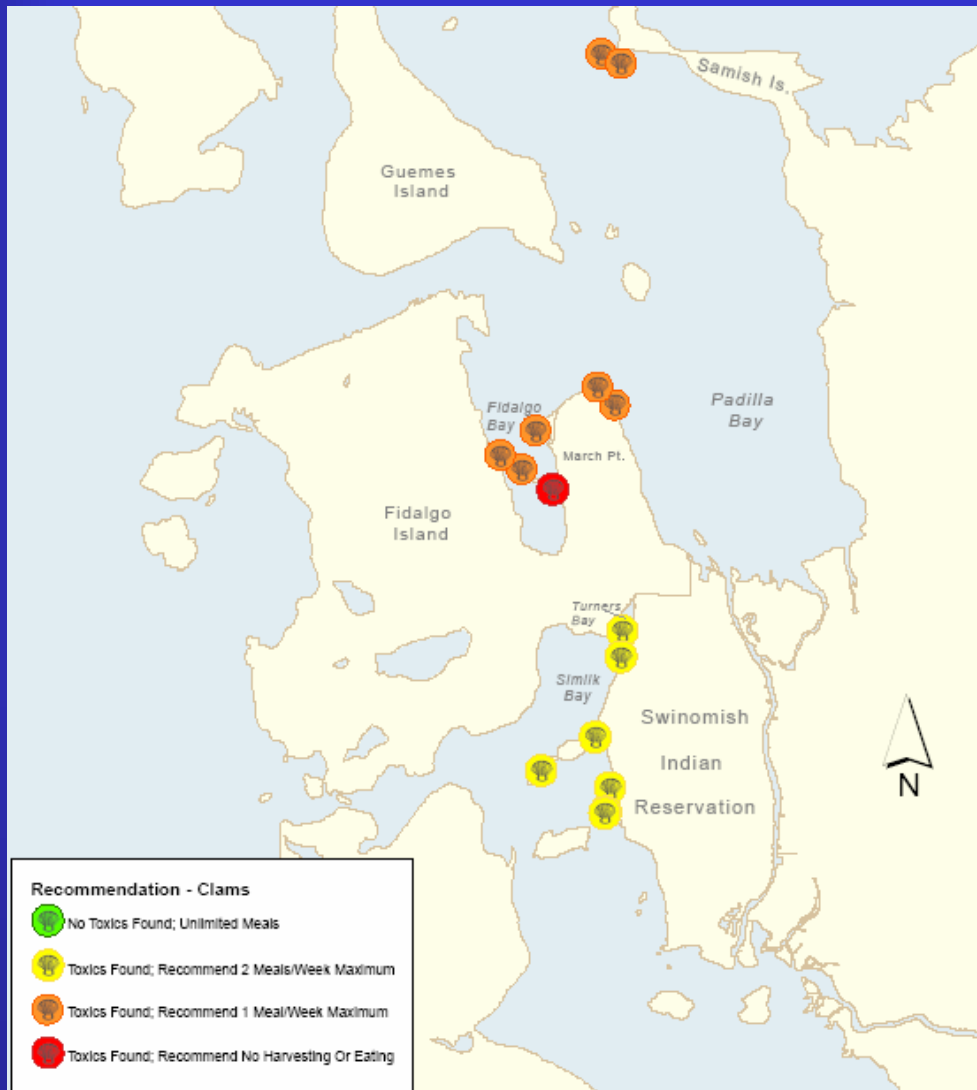


Biggest cancer risk drivers: arsenic

Biggest non-cancer risk drivers: PCB congeners, then arsenic



# Risk Assessment: Clams



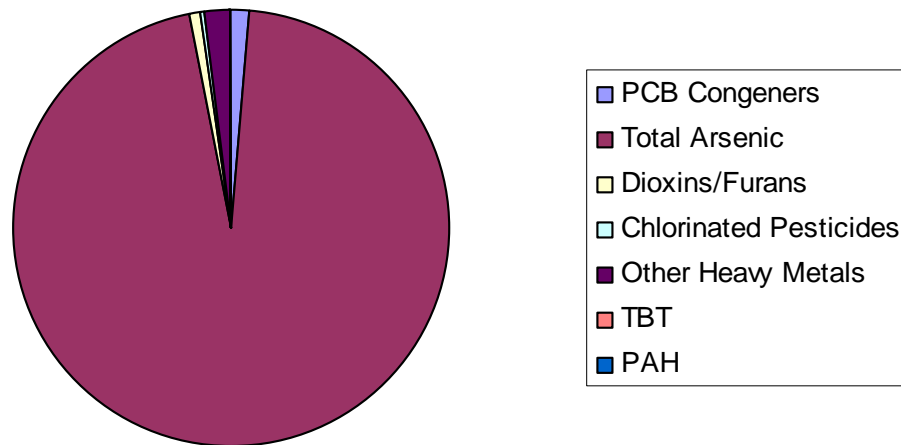
## Key:

- There are no green sites (unlimited) anywhere.
- Orange means less preferable or one meal per week (alone or in combination)—7 sites
- Yellow means two meals per week—7 sites
- Red means no meals-1 site

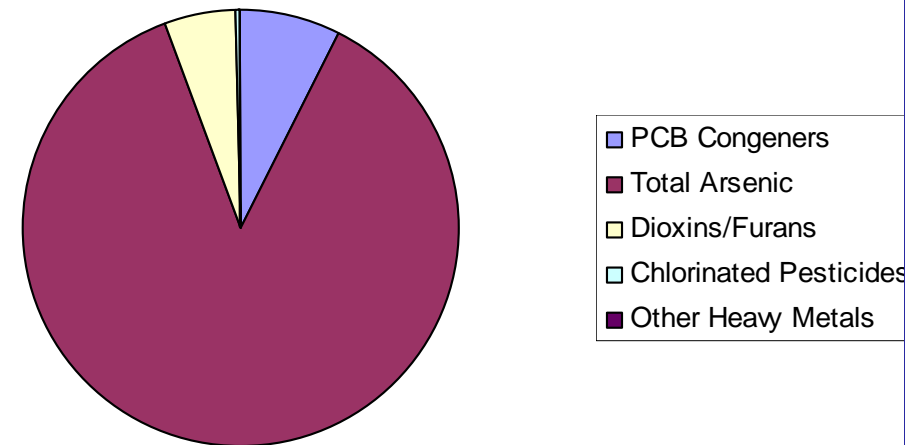
# Risk Assessment: Crabs

% each toxic contributed to total amount found

Typical Non-Cancer Risk Drivers - Crabs

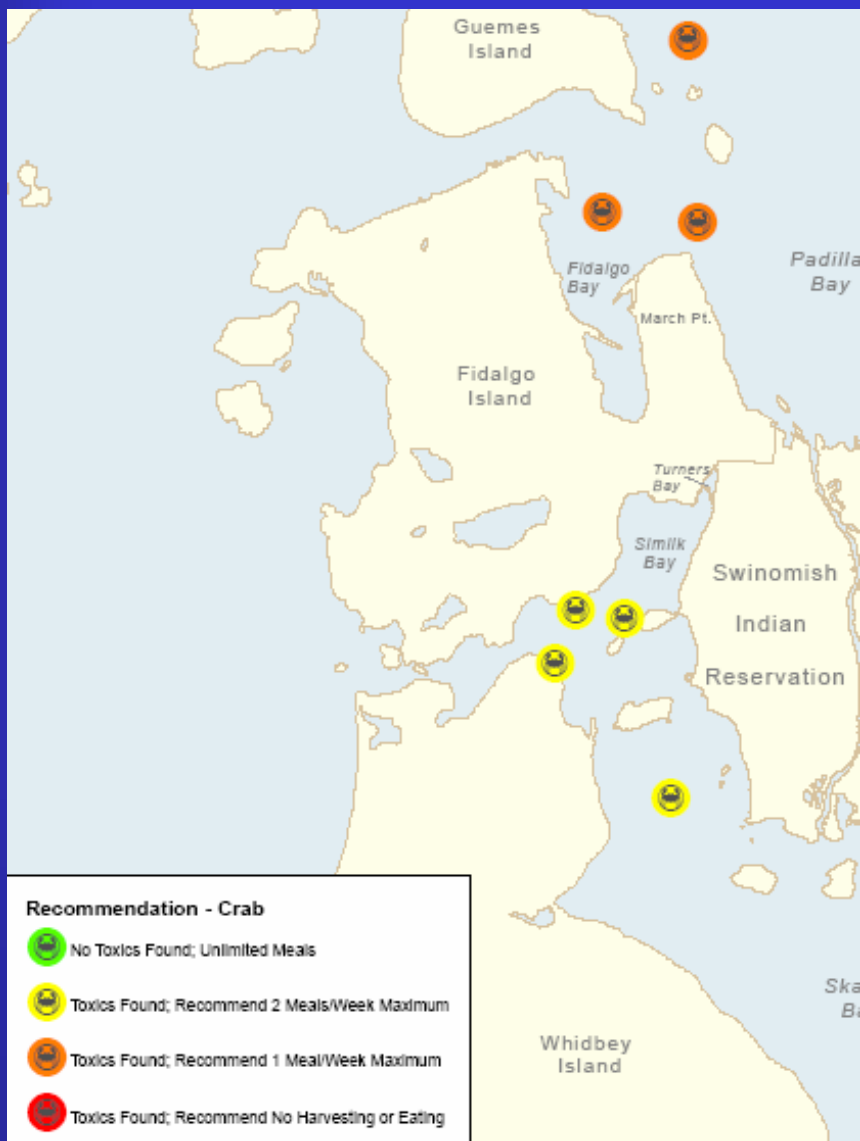


Typical Cancer Risk Drivers - Crabs



Biggest cancer risk drivers: arsenic, PCB congeners, dioxins  
Biggest non-cancer risk drivers: arsenic

# Risk Assessment: Crabs



## Key:

- There are no green sites (unlimited) anywhere.
- Orange means less preferable or one meal per week (alone or in combination)—5 sites
- Yellow means two meals per week—4 sites
- Red means no meals-no sites



# Risk Assessment



# Community Outreach & Education



- Community gatherings
- Youth programs
- Kee-yoks newsletter
- SWN96 cable station
- Native Lens
- Primary care providers



# Swinomish Native Lens





# Next Steps



FOOD FOR THE BODY,  
FOOD FOR THE SPIRIT.

# **Swinomish Tribe's Bioaccumulative Toxics and Native American Shellfish Project**



Thank you. If you have  
questions, comments, etc.  
please contact me:

(360) 466-1532

Swinomish Indian Tribe

Planning Office

PO Box 817

La Conner, WA 98257

[jdonatuto@swinomish.nsn.us](mailto:jdonatuto@swinomish.nsn.us)